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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,145	04/01/2004	Tatsuyuki Miura	016907-1654	7350

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EXAMINER	
CHEN, SOPHIA S	
ART UNIT	PAPER NUMBER
2852	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H-A

Office Action Summary	Application No.	Applicant(s)	
	10/814,145	MIURA, TATSUYUKI	
	Examiner	Art Unit	
	Sophia S. Chen	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-8,10,11 and 13-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-8, 10, 11, and 13-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 1/4/05 has been entered.

Withdraw Finality

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

3. Applicant's arguments, see pages 6-8 of the amendment, filed 1/4/05, with respect to the rejection(s)of claim(s) 3-8, 10, 11, and 13-15 under Saito et al., Yanagi, and Tsuchitoi have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Park et al. (US Pat. No. 5,953,575, cited in previous Form PTO-892).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 13, 3, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagi (US Pat. No. 6,041,213, cited in previous Form PTO-892) in view of Park et al. (US Pat. No. 5,953,575)

Yanagi discloses an image forming apparatus comprising: an image carrier 24 for carrying an image (column 3, lines 42-50); a transfer device 13 provided opposite to the

image carrier 24 with a first carrying path 25 interposing therebetween, for transferring the image to an object 23 which is carried through the first carrying path 25 (Figure 1); a resist roller 31 provided on the first carrying path 25, being located in an upstream side of the transfer device 13 (Figure 1); a discharge section 10 for receiving an object 23, onto both surfaces of which an image is transferred by the transfer device 13, carried from the first carrying path 25 (column 4, line 64 to column 5, line 49; Figure 1); a carrying device 12 for carrying an object 23, onto one surface of which an image is transferred by the transfer device 13, toward the discharge section 10 by a predetermined distance, and then carrying the object 23 in a direction away from the discharge section 10 (Figure 1); and a second carrying path 27 on which the object 23 carried in the direction away from the discharge section 10 by the carrying device 12 is guided from a downstream side of the transfer device 13 of the first carrying path 25 and is guided in an inverted state to an upstream side of the resist roller 31 (Figure 1), wherein the second carrying path includes a first roller pair 19 upstream of the object carrying direction D and a second roller pair 20 downstream of the object carrying direction D.

Yanagi further discloses the second carrying path 27 connects the downstream side and the upstream side in the object carrying direction of the first carrying path 25, and forms a loop in incorporating with the first carrying path 25 (Figure 1); a sheet feed device 30 for feeding the object 23 to the first carrying path 25, the sheet feed device 30 provided outside the loop formed of the first and second carrying paths 25, 27 (Figure

1); and the second carrying path 27 has a corner part and a substantially straight part (Figure 1).

Yanagi differs from the instant claimed invention in not disclosing a third roller pair between the first and second roller pairs; the third roller pair being provided at a substantially center portion of the second carrying path; and the third roller pair being provided in the substantially straight part.

Park et al. discloses an image forming apparatus comprising: an image carrier 32; a transfer device (no reference assigned; Figure 1, the roller below roller 32); a first carrying path A; a second carrying path B; and the second carrying path B includes a first roller pair 17 upstream of the object carrying direction (Figure 1), a second roller pair 50, 52 downstream of the object carrying direction (Figure 1; the rollers 50, 52 next to reference numeral 101); and a third roller pair 50, 52 (Figure 1; the rollers 50, 52 next to roller pair 17) between the first and second roller pairs 17, 50, 52 (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the third roller pair as taught by Park et al. to the second carrying path of Yanagi to shorten the distance between two roller pairs in order to further smoothly convey the object.

Since the third roller pair has been added between the first and second roller pairs 19, 20 of Yanagi (Figure 1 shows a straight part between rollers 19 and 20), it would have been obvious that the third roller pair is provided at a substantially center portion (or the straight part) of the second carrying path (see Figure 1).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagi in view of Park et al. as applied to claim 13 above, and further in view of Tsuchitoi (US Pat. No. 5,872,900, cited in Form PTO-1449).

Yanagi in view of Park et al., as discussed above, further discloses a detection sensor 33 being provided in the vicinity of the second roller pair 20 (Yanagi; Figure 1).

Yanagi in view of Park et al. differs from the instant claimed invention in not disclosing the detection sensor being provided in the vicinity of each of the first and second roller pairs.

Tsuchitoi discloses an image forming apparatus comprising a first carrying path (from reference numeral 211 to reference numeral 216; Figure 2); a second carrying path (from reference numeral 231 to reference numeral 236; Figure 2); the second carrying path includes a first roller pair 231, a second roller pair 234, and a third roller pair 233 between the first and second roller pairs 231 and 234; and the first and second sensors 232 and 235 being provided in the vicinity of each of the first and second roller pairs 231 and 234 (Figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the multiple sensors and their positions as taught by Tsuchitoi to the second carrying path of Yanagi in view of Park et al. to timely control the paper (Tsuchitoi, column 6, lines 26-33).

7. Claims 14, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagi in view of Park et al.

Yanagi discloses an image forming apparatus comprising: a sheet feed roller 30 for feeding an object 23 onto which an image is to be transferred (Figure 1); a first carrying path 25 on which the object 23 fed by the sheet feeding roller 30 is carried (Figure 1); a resist roller 31 which align the object 23 carried by the first carrying path 25 (column 5, lines 59-63); an image carrier 24 for carrying an image (column 3, lines 42-50); a transfer section 13 for transferring the image onto the object 23 (Figure 1); a fixing section 14 for fixing the transferred image on the aligned object 23 (column 5, lines 63-66); a discharge roller pair 12 for discharging the object 23 on which the image is fixed (Figure 1); a receiving section 10 provided in the vicinity of the discharge roller pair 12, for receiving the object 23 discharged from the discharge roller pair 12 (Figure 1); a second carrying path 27 which merges with the first carrying path 25 at a position upstream in the object carrying direction with respect to the image carrier 24 and downstream in the object carrying direction with respect to the sheet feed roller 30 and at a position downstream in the object carrying direction with respect to the fixing section 14 (Figure 1); wherein the discharge roller pair 12 is rotatable in normal and reverse directions, and after it sends an object 23, on one surface of which an image is fixed, toward the receiving section 10 by a predetermined distance, it sends the object 23 in the direction C away from the receiving section 10 to guide the object 23 to the second carrying path 27 from the position downstream with respect to the fixing section 14 (column 7, lines 40-62 and Figure 1); and wherein the second carrying path 27 guides the object 23 sent by the discharge roller pair 12 to the first carrying path 25 at the position upstream in the object carrying direction with respect to the image carrier

24 and upstream in the object carrying direction with respect to the resist roller 31 in a state where the object 23 is inverted, and has a first roller pair 19 upstream in the object carrying direction D and a second roller pair 20 downstream in the object carrying direction D (Figure 1).

Yanagi further discloses the second carrying path 27 has first and second sensors 35, 33 for detecting an object 23 onto which an image is to be transferred (column 4, lines 5-6, 29-33, and 37-41); the first sensor 35 is provided in the vicinity of a beginning portion of the second carrying path 27 (Figure 1); and the second sensor 33 is provided in the vicinity of an end portion of the second carrying path 27 (Figure 1).

Yanagi differs from the instant claimed invention in not disclosing a third roller pair between the first and second roller pairs.

Park et al. discloses an image forming apparatus comprising: an image carrier 32; a transfer device (no reference assigned; Figure 1, the roller below roller 32); a first carrying path A; a second carrying path B; and the second carrying path B includes a first roller pair 17 upstream of the object carrying direction (Figure 1), a second roller pair 50, 52 downstream of the object carrying direction (Figure 1; the rollers 50, 52 next to reference numeral 101); and a third roller pair 50, 52 (Figure 1; the rollers 50, 52 next to roller pair 17) between the first and second roller pairs 17, 50, 52 (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the third roller pair as taught by Park et al. to the second carrying path of Yanagi to shorten the distance between two roller pairs in order to further smoothly convey the object.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagi in view of Park et al.

Yanagi discloses an image forming method comprising: carrying an object 23 onto which an image is to be transferred through a first carrying path 25 to a portion between an image carrier 24 for carrying an image and a transfer device 13 which is provided opposite to the image carrier 24 with the first carrying path 25 interposing therebetween, after the object 23 is aligned by a resist roller 31 (Figure 1); transferring an image onto one surface of the object 23 by the transfer device 13 (column 3, lines 46-49; Figure 1); carrying the object 23 onto one surface of which the image has been transferred toward a discharge section 10 provided on a discharge port of the first carrying path 25 by a predetermined distance, and then carrying it in a direction away from the discharge section 10 (Figure 1); guiding the object 23 to a second carrying path 27 from a downstream side of the transfer device 13 (Figure 1); carrying the object 23 in an inverted state, to an upstream side of the resist roller 31, through a first roller pair 19 provided upstream in the object carrying direction D of the second carrying path 27 (Figure 1) and a second roller pair 20 provided downstream in the object carrying direction D of the second carrying path 27 (Figure 1); and discharging the object 23 which has been carried upstream of the first carrying path 25 in an inverted state, to the transfer device 13 on the first carrying path 25, transferring an image onto the other surface of the object 23, and discharging the object 23 to the discharge section 10 (column 5, line 34 to column 6, line 3).

Yanagi differs from the instant claimed invention in not disclosing a third roller pair provided between the first and second roller pairs.

Park et al. discloses an image forming apparatus comprising: an image carrier 32; a transfer device (no reference assigned; Figure 1, the roller below roller 32); a first carrying path A; a second carrying path B; and the second carrying path B includes a first roller pair 17 upstream of the object carrying direction (Figure 1), a second roller pair 50, 52 downstream of the object carrying direction (Figure 1; the rollers 50, 52 next to reference numeral 101); and a third roller pair 50, 52 (Figure 1; the rollers 50, 52 next to roller pair 17) between the first and second roller pairs 17, 50, 52 (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the third roller pair as taught by Park et al. to the second carrying path of Yanagi to shorten the distance between two roller pairs in order to further smoothly convey the object.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Ssc
January 18, 2005